

ing broken away for this purpose), into which the dried material falls, and whence it is continuously removed by a bucket elevator.

Just beyond this pit, in the base of the smoke stack, is the gas mingling and combustion chamber, in which the escaping steam and gases are decomposed and thereby rendered inoffensive.

The operation of the furnace is as follows: The fire is urged in the first fire place until the latter is hot enough to instantly ignite the pulverized coal which is injected through it by the pulverizer or fan, as shown in the engraving. The jet of burning pulverized coal entering the cylinder quickly heats it throughout to a white heat. At the same time the fire on the grate in the gas combustion chamber has brought the walls and perforated dome thereof to a white heat.

The cylinder is then put in motion at the rate of from two to ten revolutions per minute, and the garbage and ashes, separately or together, are dumped into it from the carts.

The material, as it passes through the cylinder, is exposed to the direct contact of the intense flame and to the direct radiation from the hot brick lining of the cylinder for as long a period as may be desired, this depending upon the speed of the cylinder.

At a speed of about five revolutions a minute the furnace will dry the garbage to the best condition for a fertilizer, while at a speed of two revolutions a minute for the furnace the garbage will be reduced to ashes. The speed is regulated at will by the use of cone pulleys on the counter-shafts.

The enormous volume of steam and gases generated in the process move forward into the gas combustion chamber, and are there decomposed and burned, the perforated dome retaining them sufficiently long for this purpose.

There escapes then, through the dome an intense white